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MEMORANDUM

To: Ronnie Price, President and CEO, Arlington Convention and Visitors Bureau

From: HR&A Advisors, Inc.

Date: June 2, 2016

Re: Arlington Ballpark Economic and Fiscal Impact Study

On behalf of the Arlington Convention and Visitors Bureau, HR&A Advisors, Inc. ("HR&A") has conducted an economic and fiscal impact analysis to quantify the value of the Texas Rangers Major League Baseball franchise ("Rangers") to the City of Arlington and Tarrant County beyond their current lease in 2024, assuming the construction of a new stadium, which is anticipated to become operational in the year 2020. Using the proprietary IMPact analysis for PLANning ("IMPLAN") software, this study estimates the economic impacts to the City of Arlington and Tarrant County related to existing operations at Globe Life Park, construction of a new stadium, and stable-year operations of the new facility, as well as the key fiscal revenues to the City of Arlington at these milestones. These estimates are based on a thorough review of data provided by the City of Arlington and the Texas Rangers as well as wage and job data provided by third party vendors supplying retail and food services at the ballpark. Further, this information was supplemented with assumptions around off-site visitor spending attributable to the Rangers, based on the 2006 *Economic Impact Analysis of Amerquest Field in Arlington* by Economic Research Associates ("ERA"). The following study takes a conservative approach, measuring only the business-related expenditures by the Rangers, as well as the spending by visitors at the stadium, without factoring in team profits or additional economic activity that takes place due to the Rangers existence, such as sponsorship or other revenues. This memorandum is organized as follows:

- Summary of economic and tax revenue impacts in the City of Arlington and Tarrant County;
- Overview of the IMPLAN model;
- Economic impact from stadium operations and visitor off-site spending;
- Economic impact from construction;
- Key fiscal revenues attributable to the Texas Rangers.

Per information provided by the City, for the purposes of this study, HR&A assumes that the Rangers would continue to play at Globe Life Park until 2019. The new stadium will open as early as 2020 and the facility lease will be extended from 2024 through 2054.

HR&A has extensive experience preparing analysis of the economic and tax revenue impacts of a wide range of development product types, established institutions, and planning initiatives throughout the U.S. The analysis and conclusions contained in this Memorandum are subject to the limiting conditions included in Appendix A.

Summary of economic and tax revenue impacts in the City of Arlington and Tarrant County

"Economic impact" refers to the incremental difference that the Rangers' annual operations make to the number of people employed, employee compensation earned (i.e., wages and benefits) and the resulting circulation of dollars throughout the economies of the City of Arlington and Tarrant County. Based on data from the Rangers, assumptions outlined in the 2006 ERA study, and new assumptions about the context of

the new stadium, HR&A Advisors estimates the following impacts in 2016 dollars from annual operations during stable year operations of the Rangers in the new facility¹:

- Approximately \$137.7 million in annual economic activity within Tarrant County, including \$77.5 million generated within the City of Arlington.
- Approximately 4,000 full and part-time jobs annually in Tarrant County, of which 3,400 are in Arlington. HR&A estimates that this is equivalent to 1,950 full time equivalent (“FTE”) jobs in Tarrant County of which 1,450 FTE jobs are in Arlington.
- Approximately \$66.5 million in compensation to workers directly and indirectly associated with annual stadium operations in Tarrant County, with \$43.6 million of that captured within the City of Arlington.

Additionally, with a total capital cost of over \$850 million, the construction of a new stadium will have its own one-time economic effects, supporting:

- 3,000 job years in Tarrant County, including 600 captured in the City of Arlington over the construction period. Assuming a 3-year construction schedule, this would translate to 1,000 jobs annually in Tarrant County during construction, including 200 captured within the City of Arlington.
- \$485 million in economic activity in Tarrant County, including \$88.6 million taking place in Arlington during the construction period.

Table 1 summarizes the total jobs, wages, and economic output supported by these activities.

Table 1
Total Economic Impacts for the City of Arlington and Tarrant County
from Annual Operation of the Texas Rangers
and New Stadium Construction
(all dollar amounts in 2016 \$)

Impact Category	Total Impact ¹	
	Arlington	Tarrant Co.
Total Ongoing Impact		
Full & Part-Time Jobs	3,400	4,000
Estimated FTE Jobs	1,450	1,950
Employee Compensation	\$43.6M	\$66.5M
Total Economic Output	\$77.5M	\$137.7M
Total One-Time New Stadium Construction Impact		
Employment (job years)	600	3,000
FTE Jobs (annually during construction, assuming 3-year schedule)	200	1,000
Employee Compensation	\$33.7M	\$182.5M
Total Economic Output	\$88.6M	\$485.0M

¹ Totals may not sum precisely due to independent rounding.

Source: Texas Rangers, City of Arlington, IMPLAN, HR&A Advisors, Inc.

¹ For this study, we define “expenditures” as any spending related to Rangers operations, off-site visitor purchases, or related inputs for the model. “Output” is defined as the resulting economic impact of these expenditures, which is calculated from the IMPLAN models.

In addition to these impacts, the City benefits from fiscal revenues attributable to the Rangers (from both games and non-game events), including payments made by the team as a part of their lease as well as visitor-related sales, hotel, and car rental taxes. Some of these revenues may be used by the City to repay any public finance obligations toward the new stadium. Using data from the Rangers and the City of Arlington, HR&A estimates total key fiscal revenue to the City of Arlington of approximately \$5.1 million in 2016 dollars annually during stabilized year of operations and \$134.4 million in net present value from 2016-2054, with \$122.3 million of this value occurring over the life of the new stadium from 2020 until 2054.

The key sources of fiscal revenue include:

- \$2.7 million annually in sales taxes collected from on and off-site from visitor spending;
- \$341,000 annually in hotel occupancy taxes;
- \$62,700 annually in car rental taxes;
- \$2 million in annual lease payments to the City.

Overview of the IMPLAN model

Employment and other economic impacts related to the annual operation of the Texas Rangers were estimated using the IMPLAN² input-output model and data specific to Tarrant County as of 2014, which is the latest year for which model data are available. The model was then tailored to Arlington's economy using ZIP codes to approximate the boundaries of the City. Input-output analysis is an economic impact modeling method used to understand the interactions among industries in a local economy that result from investment in a new capital project or other economic changes. In form, it resembles a large spreadsheet, in which the "inflows" of goods and services needed by an industry (i.e., the purchasing sectors) are the columns and the rows consist of the outputs, or selling sectors. This enables analysis of the specific sectors in an area's economy that are affected, and by how much, when a dollar's worth of investment, new employment or other measure of "final demand" is added to a particular sector or sectors. These inter-industry relationships can be expressed in terms of dollar impacts (measured in producer prices) or employment impacts.

IMPLAN is a widely accepted model that HR&A and many others, including many public agencies, use to estimate the economic consequences of new investment in, or other changes to, a local or regional economy. It explicitly accounts for impact "leakage," or the fact that not all economic impacts are necessarily experienced inside the geographic area under study. The IMPLAN model can be used to generate estimates of direct, indirect and induced employment, compensation (i.e., wages and benefits) and total economic output (i.e., a summary measure of all spending and economic activity), for both the construction phase of a project, and annually, once it has been completed and occupied. "Employment" includes all individual full-time and part-time jobs, regardless of whether they are permanent or temporary, and self-employed persons as well as wage and salary workers.

"Direct" impacts include the direct expenses to support the operations of the Rangers and the Rangers' third party food and retail sales vendors as well as payroll for on-site staff.³ "Indirect" impacts are those resulting

² IMPLAN (IMPact Analysis for PLANning), a social accounting and impact analysis software program, was developed in 1979 by the U.S. Forest Service in cooperation with the Federal Emergency Management Agency and the U.S. Bureau of Land Management to assist the Forest Service in land and resource planning and management. The program was updated and improved over subsequent years. In 1992, IMPLAN was transferred under a technology transfer agreement to the Minnesota IMPLAN Group, Inc. (MIG), which was run by three of the key University of Minnesota staff members who worked on the original program and subsequently developed the current modeling system. In 2013, IMPLAN was purchased by MIG, Inc. and privatized.

³ Payrolled staff excludes players and coaches because the impacts of their salaries are not limited to the City economy.

from goods and services purchased by Rangers or other Ranger contractors to support their business operations. “Induced” impacts result when direct and indirect employees (related to construction, annual retail operations and annual household spending by on-site residents) spend their compensation on consumer and other household-related goods and services. These impacts are spread throughout the City and County. The indirect and induced effects are together sometimes referred to as the “multiplier effect” of the direct expenditures associated with a development project.

Economic impact from stadium operations and visitor off-site spending

HR&A Advisors took a conservative “expenditures” approach to estimate the economic impacts of the Rangers, which did not factor in team revenues or profits. Based on a review of the Rangers’ annual expenditures over the past five years, which included: (1) Rangers’ annual operating expenditures,⁴ (2) Rangers’ payroll and jobs data,⁵ (3) payroll and jobs data from the Rangers’ external food and retail sales vendor,⁶ and (4) off-site visitor spending by patrons and visiting teams estimated with spending assumptions from the 2006 study by ERA, with these four categories constituting the direct impacts, and indirect and induced multipliers impacts derived from the IMPLAN model after making regional adjustments and accounting for spending leakage out of the region.

The Rangers’ 2015 operating expenses have been used as a benchmark for both current and future stadium operations, as these expenditures were in line with previous years. Due to the confidential nature of the team’s spending and revenue data, these inputs are not available to be shared within this report, but include both spending from game day and non-game day events. HR&A assumes that the new stadium will host 10 additional large, non-game events in addition to the current calendar of non-game events at the stadium. With a retractable roof, air conditioning and related costs may increase. Since these elements are unknown, HR&A has not included any additional assumptions around utility costs for a new stadium and the results presented herein may underestimate to some unknown degree the true economic impacts.

Off-site visitor spending estimates are based on an average of 2.4 million annual visitors, derived from average gate attendance over the past five years, and general profiles of likely consumer spending from the City’s past analysis conducted by ERA in 2006, with adjustments made for inflation over the past decade.⁷ This analysis assumed different spending profiles for the estimated 45% of visitors who come from outside the Dallas/Tarrant County region and the 55% who originate within the region.⁸ In addition to these visitors are the visiting personnel from opposing teams, which generate only a fraction of the visitor nights compared to fans. These factors were multiplied by the visitors in each geographic area and annual team visiting personnel to determine the likely spending attributable to the Rangers.

⁴ Operating expenditures data includes spending related to non-game events.

⁵ The Rangers data includes wages and employee counts for full-time, part-time, and seasonal positions (minus salaries of players and coaches).

⁶ External vendor data includes wages and employee counts for full-time, seasonal, and non-seasonal positions.

⁷ HR&A calculated off-site visitor spending based on spending profiles for different types of visitors: local visitors, out-of-town visitors, and visiting teams. Each profile included average off-site spending amounts for food and beverage, hotels, and other related travel expenses (such as gasoline).

⁸ Assumptions about the regional split taken from 2006 ERA report.

Table 2
Per Capita, Per Day Spending Factors for Visitors
(all dollar amounts in 2016 \$)

Item	Per Day Spending Factor (outside region)*	Per Day Spending Factor (inside region)*	Per Day Spending Factor (visiting team)
Eating and drinking	\$9.45	\$3.15	\$53.15
Transportation	\$4.13	\$1.38	\$41.34
Lodging**	\$35.44	--	\$106.31
Other retail	\$2.95	\$0.98	\$23.62

* 2006 ERA Assumption CPI adjusted to 2016

** Applied to 5% of out-of-area visitors

In total, visitors coming to Arlington for the Rangers spend an estimated \$29.8 million annually on these services within Tarrant County. Of this, HR&A assumed, based on the 2006 ERA study, that 80% of spending would take place within Arlington and 20% throughout the rest of Tarrant County.

The new stadium, however, is likely to bring in new visitors seeking to visit the new ballpark as a destination in and of itself, and those who previously were prevented from attending games in peak summer due to temperatures that would now be mitigated with a retractable roof. Average annual game day attendance over the past five years is approximately 2.4 million. Based on a review of studies examining attendance increases due to new facilities, HR&A assumes that the novelty of the new facility will boost attendance approximately 12% for the first 5 years. After this initial boost, HR&A assumes that attendance will stabilize by year 8 with an average of 2.4 million attendees annually.

When evaluating economic activity in a region, HR&A understands that not all direct economic activity will stay in the immediate area. Because of this, regional adjustments were made to estimate the indirect and induced impacts by geography. The capture rates used for Tarrant County are based on the 2006 study by ERA, with different assumptions for capture rates by type of expenditure (operating expenditures, events, wages, and off-site visitor spending), as shown in Table 3.

Table 3
Tarrant County Regional Adjustments

Operations	36%
Events	41%
Wages	70%
Off-site Visitor Spending	70%

These values represent an estimate of the Rangers' spending amount captured within Tarrant County. Of the Tarrant County shares, HR&A assumes that the City of Arlington will retain 19% of spending and wages across all expenditure categories. This percentage is based on the total share of jobs within Arlington compared to the County as a whole. The component results of the economic impact analysis from IMPLAN is summarized in Table 4.

Table 4
Total Economic Impacts for the City of Arlington and Tarrant County
from Annual Operation of the Texas Rangers
(all dollar amounts in 2016 \$)

Impact Category	Direct Impact		Indirect & Induced Impact		Total Impact ¹	
	Arlington	Tarrant Co.	Arlington	Tarrant Co.	Arlington	Tarrant Co.
Full & Part-Time Jobs	3,300	3,600	80	400	3,400	4,000
Estimated FTE Jobs	1,400	1,700	50	250	1,450	1,950
Employee Compensation	\$40.6M	\$48.1M	\$3.1M	\$18.3M	\$43.6M	\$66.5M
Total Economic Output	\$69.4M	\$87.0M	\$8.1M	\$50.7M	\$77.5M	\$137.7M

¹ Totals may not sum precisely due to independent rounding.

Sources: Texas Rangers, City of Arlington, IMPLAN, HR&A Advisors, Inc.

The total annual economic impact to Tarrant County from the Rangers operations and visitors is estimated at \$137.7 million during stabilized operations of the new stadium, with approximately \$77.5 million of these impacts occurring in the City of Arlington. In cumulative net present value terms, these impacts translate to \$4.4 billion in Tarrant County including \$2.5 billion in Arlington over the 2016-2054 period. Of this, \$3.9 billion in Tarrant County including \$2.2 billion in Arlington, or 88%, can be attributed to the period after the new facility becomes operational in 2020⁹.

The impacts of spending by visitors, along with the operating costs associated with the team, has reverberations beyond the initial spending, supporting almost 4,000 full and part-time jobs in Tarrant County, of which 3,400 jobs are located in Arlington, during stable year of operations of the new facility. HR&A estimates that this is equivalent to 1,950 FTE jobs in Tarrant County of which 1,450 FTE jobs are in Arlington. In sum, these jobs contribute \$66.5 million in annual wages throughout Tarrant County, including \$43.6 million in Arlington.

FTEs for on-site jobs were calculated by categorizing the jobs that were not on-site and full-time as either serving game-days/large events, which assumed 12 hour shifts, small events jobs, which assumed 6 hour shifts. Off-site retail, jobs were translated into FTEs by multiplying the jobs by 0.96 (the current ratio of part-time to full-time jobs from the Bureau of Economic Analysis).

Economic impact from construction

In addition to the economic impact of the Rangers' ongoing operations, the construction of a new stadium will generate its own one-time impacts for the City of Arlington and Tarrant County, both in terms of jobs created and the effects of the spending on materials and equipment. Based on feedback from the City, HR&A has applied a total construction budget of \$850 million with Tarrant County retaining 36% of these effects and the City of Arlington capturing 19% of the Tarrant County share, representing the share of jobs within Arlington compared to Tarrant County. IMPLAN translates these construction costs into total employment, total compensation, and total economic output impacts for the City of Arlington and Tarrant County's respective economies. The component results of the economic impact analysis are summarized in Table 5.

⁹ This calculation assumes 3% inflation and a 4% discount rate.

Table 5
Total Economic Impacts for the City of Arlington and Tarrant County
from Construction of a New Stadium
(all dollar amounts in 2016 \$)

Impact Category	Direct Impact		Indirect & Induced Impact		Total Impact ¹	
	Arlington	Tarrant Co.	Arlington	Tarrant Co.	Arlington	Tarrant Co.
Employment (job years)	400	2,000	200	1,000	600	3,000
Employment (annually during construction) ²	133	667	67	334	200	1,000
Employee Compensation	\$23.1M	\$121.5M	\$10.6M	\$61.0M	\$33.7M	\$182.5M
Total Economic Output	\$58.1M	\$306.0M	\$30.5M	\$179.0M	\$88.6M	\$485.0M

¹ Totals may not sum precisely due to independent rounding.

² Assumes 3 year construction schedule

Sources: Texas Rangers, City of Arlington, IMPLAN, HR&A Advisors, Inc.

With a total capital cost of \$850 million, the construction of a new stadium will support an estimated 3,000 job years in Tarrant County and \$485 million in economic activity, with 600 job years and \$88.6 million of these impacts are expected to occur within the City of Arlington. Assuming a three-year construction schedule, this would support 1,000 jobs annually in Tarrant County during construction, including 200 in Arlington. It is important to note that these construction-related economic impacts will only affect the local economy during the duration of construction work and should not be considered part of the ongoing economic impact of the Rangers franchise in Arlington and Tarrant County.

Jobs were annualized for construction by taking the total wages from IMPLAN and dividing by the average wage for construction jobs in Texas from the Bureau of Labor Statistics, then dividing by the number of years within the construction schedule.

Key fiscal revenues attributable to the Texas Rangers

The Texas Rangers generate a number of direct revenue streams to the City of Arlington due to their presence, which include a) rent paid by the team to the City, b) sales tax collected both on-site from ticket sales and other retail purchases as well as the sales tax from off-site visitor spending that is attributable to the team, c) hotel nights attributable to the team, and d) car rentals attributable to the team.

In each of these categories, HR&A Advisors either took the average annual amount based on actual figures from the City of Arlington or the Texas Rangers (rent, sales tax) or made an assumption around the likely amounts that could be generated annually from visitors, using inflation-adjusted figures from the 2006 ERA study as a guideline.

Rent

As discussed in the City of Arlington's Comprehensive Annual Financial Report, the Rangers pay the City \$2 million annually in base rent for Globe Life Park. This is anticipated to remain in place in any future stadium deal.

Sales Tax

Our sales tax information was based on an average of the actual 1.75% sales tax annually collected on site over the past five years with an additional amount to reflect the off-site spending estimated that is attributable to the Texas Rangers as a part of the assessment of economic impact from visitor off-site

spending, which includes sales taxes collected from ticket sales. The actual on-site sales tax was adjusted for the estimated increase in visitors included in the off-site visitor spending for the new stadium, which assumes a 12% increase for the first 5 years of operation that eventually decreases back to the baseline by year ten. In total, sales tax attributable from the Rangers in these categories is estimated at \$2.7 million annually in a stabilized year of operations.

Hotel Occupancy Tax

The 9% hotel occupancy taxes were calculated only on the visitor nights attributable to the Rangers, based on only 41,000 annual visitor nights, or 5% of the total out-of-region visitors. These taxes are estimated at \$341,000 annually in a stabilized year of operations.

Car Rental Tax

The 5% car rental tax was similarly calculated only on those rentals attributable to the Rangers, based on profiles of visitor spending. Car rentals were only applied to 2.5% of out-of-region visitors (21,000 visitor nights) and 1.25% of in-region visitors (13,000 visitor nights). These taxes are estimated at \$62,700 annually during a stabilized year of operations.

In total, the \$5.1 million in annual fiscal revenues account for a total net present value to the City of Arlington of over \$134.4 million from 2016-2054, with 91% of this value, or \$121.9 million, occurring during the time period of the new stadium (2020-2054). It should be noted that some of these revenues, in addition to future user fees that are applied solely to those who attend the stadium, are likely to go towards the payment of the bond.

For more information, please contact HR&A Advisors at (469)-312-0430.

APPENDIX A

General and Limiting Conditions

1. In preparing this Report, HR&A has used its independent professional judgment and skills in good faith, subject to the limitations, disclosures, and disclaimers herein.
2. This Report is based on estimates, assumptions and other information developed by HR&A based upon data provided by other parties. Every reasonable effort has been made to ensure that the data contained in this Report are accurate as of the date of this Report; however, factors exist that are outside the control of HR&A and that may affect the estimates and/or projections noted herein.
3. HR&A reviewed the information and projections provided by third parties using its independent professional judgment and skills in good faith, but assumes no liability resulting from errors, omissions or any other inaccuracies with respect to the information provided by such third parties referenced in this Report.
4. In addition to relying on data, information, projections and forecasts of others as referred to above, HR&A has included in this Report estimates and assumptions made by HR&A that HR&A believes are appropriate, but HR&A makes no representation that there will be no variances between actual outcomes and such estimates and assumptions.
5. No summary or abstract of this Report, and no excerpts from this Report, may be made for any purpose without HR&A's prior written consent, which consent will not be unreasonably withheld.
6. No opinion is intended to be expressed and no responsibility is assumed for any matters that are legal in nature or require legal expertise or specialized knowledge beyond that of a real estate and economic development consultant.
7. This Report is qualified in its entirety by, and should be considered in light of these General and Limiting Conditions. By use of this Report each party that uses this Report agrees to be bound by all of the General and Limiting Conditions stated herein.